

REMARKS

In response to the above-identified Office Action, Claims 9-16 are amended, no claims are cancelled and no claims are added. Accordingly, Claims 9-16 are pending. Reconsideration and withdrawal of the rejections of record are requested in view of such amendments and the following discussion.

I. Claim Rejections Under 35 U.S.C. §112

Claims 9-12 are rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In response, Applicant amends Claim 9 to incorporate the revision requested by the Examiner, such that Claim 9 now requires spraying a decapsulation fluid onto the installed IC package through the injection head. Likewise, Applicant has amended Claim 9, as well as Claim 13, such that Claims 9 and 13 now include the following limitation:

“receiving an IC package, permanently installed onto a printed circuit board”.

As illustrated, the limitations of “via one of a through hole attachment and a service mount attachment”, have been removed. Accordingly, Applicant’s amendment of Claims 9 and 13 removes the informalities objected to by the Examiner, as well as the limitations rejected to by the Examiner under §112, first paragraph.

Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of Claims 9-12 under 35 U.S.C. §112, first paragraph. Likewise, Applicant respectfully requests the Examiner reconsider and withdraw the claim objections to Claim 9.

II. Claim Rejections Under 35 U.S.C. §102(b)

In the above-identified Office Action, the Examiner rejects Claims 9, 13 and 16 under 35 U.S.C. §102(b) as being anticipated by Wensink, U.S. Patent No. 5,443,675, (“Wensink”). Applicant respectfully traverses this rejection.

Applicant respectfully asserts that the Examiner has failed to adequately set forth a *prima facie* rejection under 35 U.S.C. §102(b). “Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik v. American Hoist & Derrick* (“Lindemann”), 730 F.2d 452, 1458 (Fed. Cir. 1994)(emphasis added). Additionally, each and every element of the claim must be exactly disclosed in the anticipatory reference. *Titanium Metals Corp. of American v. Banner* (“Titanium”), 778 F.2c 775, 777 (Fed. Cir. 1985).

Accordingly, the Examiner has failed to establish a *prima facie* rejection under 35 U.S.C. §102(b) due to the fact that neither Wensink nor the references of record teach or suggest the following limitation as required by Claims 9 and 12 of the present invention:

“receiving an IC package, permanently installed onto a printed circuit board”. (Emphasis added.)

In contrast to Claims 9 and 13 of the present invention, Wensink provides a method for decapsulation of plastic mold packages by providing fixtures that can be used in a decapsulation process that do not require that a device be removed from the fixture for subsequent electrical characterization (col. 2, lines 41-44). As described with reference with FIG. 1 in Wensink, a device under test DUT 22 may include a plurality of J-type leads 28 that contact a board 26 and thus bring out the electrical connections of DUT 22 outside machine 10 (*see* col. 4, lines 18-23).

Based on FIG. 1, the Examiner states that, “the connector board is nothing but a printed circuit board” to which the IC package is mounted in order to establish electrical connection with the integrated circuit to be tested. However, in contrast to the Examiner’s contention, careful review of FIG. 1 clearly illustrates that the connector board 26 is part of the decapsulation machine 10 (*see* col. 4, lines 9-15) and not DUT 22. As a result, once the decapsulation and testing are complete, the DUT 22 is disconnected from the board 26. Therefore, based on FIG. 1, DUT 22 is temporarily attached to connector board 26 in order to enable performance of the decapsulation.

In contrast, Claims 9 and 13 of the present invention describe methods for decapsulation of an integrated circuit package after the integrated circuit package is permanently installed onto a printed circuit board. In other words, the connector board 26, as depicted in Wensink’s FIG. 1, is not permanently mounted to the DUT during assembly and is simply temporarily connected thereto as part of the decapsulation testing. Therefore, the temporary connection of a DUT to a board during decapsulation testing does not teach or suggest testing of an IC package after the package is permanently installed to a PCB.

Consequently, Wensink fails to teach or suggest a method for decapsulation of an integrated circuit package after the integrated circuit package is mounted to a printed circuit board, as required by Claims 9 and 13 of the present invention, as amended.

Applicant respectfully submits that the amendment of Claims 9 and 13 was necessitated to place the application in condition for allowance and therefore, does not present new issues requiring a new search. Accordingly, Applicant respectfully submits that the claim amendment is proper in response to this Final Office Action.

Consequently, Wensink fails to teach each and every element of Claim 9 of the present invention. Therefore, the Examiner fails to establish a *prima facie* rejection of Claim 9 under 35 U.S.C. §102(b).

Furthermore, dependent claims 10-12 include the patentable claim limitations of claim 9 and therefore are at least patentable over the references of record. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the §102(b) rejection of claims 9-12.

Likewise, Wensink fails to teach each and every element of claim 13 of the present invention. Therefore, the Examiner fails to establish a *prima facie* rejection of claim 13 under 35 U.S.C. §102(b). Furthermore, dependent claims 14-16 include the patentable claim limitations of claim 13 and therefore, are also patentable over the references of record. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §102(b) rejection of claims 13-16.

III. Claim Rejections Under 35 U.S.C. §103(a)

In the above-identified Office Action, the Examiner rejects Claims 11 and 14 under 35 U.S.C. §103(a) as being unpatentable over Wensink, U.S. Patent No. 5,443,675, ("Wensink") in view of Winsemius et al, U.S. Patent No. 5,792,305 ("Winsemius"). Applicant respectfully traverses this rejection.

Regarding Claim 11, Claim 11 is dependent from Claim 9, and therefore includes the patentable claim limitations of Claim 9, as described above. Furthermore, the Examiner's citing of the Winsemius reference, when viewed in combination with Wensink, does teach or suggest the claim limitation of receiving an IC package permanently installed onto a printed circuit board. However, the case law clearly establishes that to establish a *prima facie* case of obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In reRoyka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (emphasis added). MPEP ¶ 2143.03.

Consequently, Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness with regard to Claim 11 due to the fact that neither Wensink nor Winsemius teach nor suggest decapsulation testing of an IC package that is permanently installed onto a printed circuit board, as required by Claims 9 and 11 of the present invention. Consequently, Applicant respectfully requests that the Examiner reconsider and withdraw the §103 rejection of Claim 11.

Regarding Claim 14, Claim 14 depends from Claim 13, which also includes the patentable claim limitation of

"receiving an IC package, permanently installed onto a printed circuit board". (Emphasis added.)

which is neither taught or suggested by either the Wensink reference or the Winsemius reference. Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness with regard to either Claims 13 or 14. Accordingly, Applicant requests that the Examiner reconsider and withdraw the §103 rejection of Claim 14.

In the above-identified Office Action, the Examiner rejects claims 10, 12 and 15 under 35 U.S.C. §103(a) as being obvious over Wensink, U.S. Patent No. 5,443,675, ("Wensink") in view of Buck et al, U.S. Patent No. 5,489,854 ("Buck"). Applicant respectfully traverses this rejection.

Regarding Claims 10 and 12, Claims 10 and 12 are dependent from Claim 9, and therefore include the patentable claim limitations of Claim 9, which requires decapsulation of IC packages that are permanently installed onto a printed circuit board. This limitation is neither taught nor suggested by either Wensink or the Buck reference, when viewed in combination with Wensink.

Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness with respect to Claims 10 and 12. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claims 10 and 12.

Furthermore, Claim 15 is dependent from Claim 13, which also includes the patentable claim limitation of:

"decapsulating an IC package that is permanently installed onto a printed circuit board". (Emphasis added.)

As indicated above, this feature is neither taught nor suggested by either Wensink or Buck, or any of the references of record. Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness with regard to Claim 15. Therefore, Applicant respectfully requests that the Examiner reconsider and withdraw the §103(a) rejection of Claim 15.

CONCLUSION

As indicated above, Applicant has amended Claims 9-16 to place the application in condition for allowance. Applicant respectfully submits that such claim amendments are proper and necessitated in order to more clearly define the limitations of Claims 9 and 13 to distinguish over the references of record. Moreover, the claim amendments do not present new issues requiring an additional search and are therefore, necessitated in order to place the application in condition for allowance.

In view of the foregoing, it is believed that all claims now pending are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. Questions regarding this matter should be directed to the undersigned at (310) 207-3800.

Respectfully submitted,
BLAKELY, SOKOLOFF, TAYLOR, & ZAFMAN LLP

Dated: December 3, 2002


By: _____

Joseph Lutz, Reg. No. 43,765

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025
(310) 207-3800

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on December 3, 2002.


Margaux Rodriguez December 3, 2002

Attachment: Version Marked to Reflect Changes

VERSION MARKED TO REFLECT CHANGES

9. (Twice Amended) A method for decapsulating ~~an~~installed integrated circuit (IC) packages, comprising:

receiving ~~the~~an IC package, permanently installed onto a printed circuit board ~~via one of a through-hole attachment and a surface-mount attachment;~~

placing the installed IC package onto a tray;

clamping an injection head onto the installed IC package; and,

spraying, ~~via the injection head,~~ decapsulation fluid onto the installed IC package through the injection head.

10. (Twice Amended) The method as recited in claim 9, further comprising:
~~the step of moving a stub that is plugged into said~~the tray and which supports the printed circuit board of the installed IC package before the ~~printed circuit board~~installed IC package is placed onto said tray.

11. (Amended) The method as recited in claim 9, further comprising:
~~the step of controlling a flow of the decapsulation fluid through a pair of tubes that couple an extender to said~~the injection head using a corresponding pair of valves.

12. (Amended) The method as recited in claim 9, further comprising:
~~the step of plugging a stub that supports the printed circuit board~~ of the installed IC package into a substrate of ~~said~~the tray.

13. (Twice Amended) A method for decapsulating ~~an~~installed integrated circuit (IC) packages, comprising:
receiving ~~the~~an IC package permanently installed onto a first surface of a printed circuit board (PCB), ~~via one of a through-hole attachment and a surface-mount attachment,~~ wherein the printed circuit board includes a second surface located below the first surface of the printed circuit board;

spraying a decapsulation fluid onto the installed IC package via an injection head clamped to the installed IC package, the injection head having a nozzle disposed above the installed IC package that is in fluid communication with an inlet port of said injection head, and a return port that is in fluid communication with an outlet port of the injection head.

14. (Amended) The method as recited in claim 13, further comprising:
~~the step of controlling a flow of the decapsulation fluid through a pair of tubes that couple an extender to said~~the injection head using a corresponding pair of valves.

15. (Amended) The method as recited in claim 13, further comprising:
~~the step of plugging a stub that supports the printed circuit board~~PCB of the installed IC
package into a substrate.

16. (Amended) The method as recited in Claim 13 further comprising:
~~the step of forming a seal between said injection head and said integrated circuit~~the installed
IC package to prevent decapsulation fluid from contacting the PCB of the installed IC package.